

[54] **PROTECTIVE PLATE FOR A VOTING MACHINE**

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[51] Int. Cl.² **G07C 13/00**

[58] Field of Search **235/1 D, 51, 55 R**

[56] **References Cited**

UNITED STATES PATENTS

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FOREIGN PATENTS OR APPLICATIONS

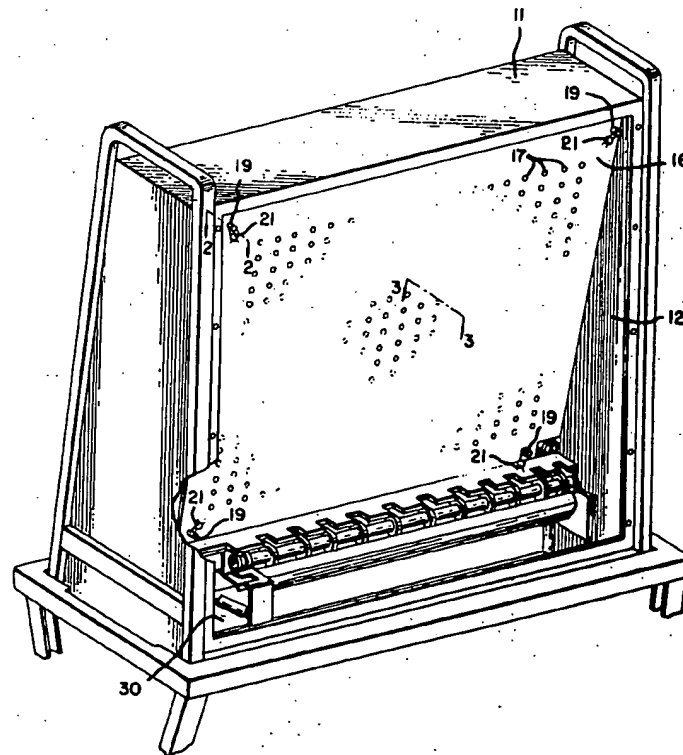
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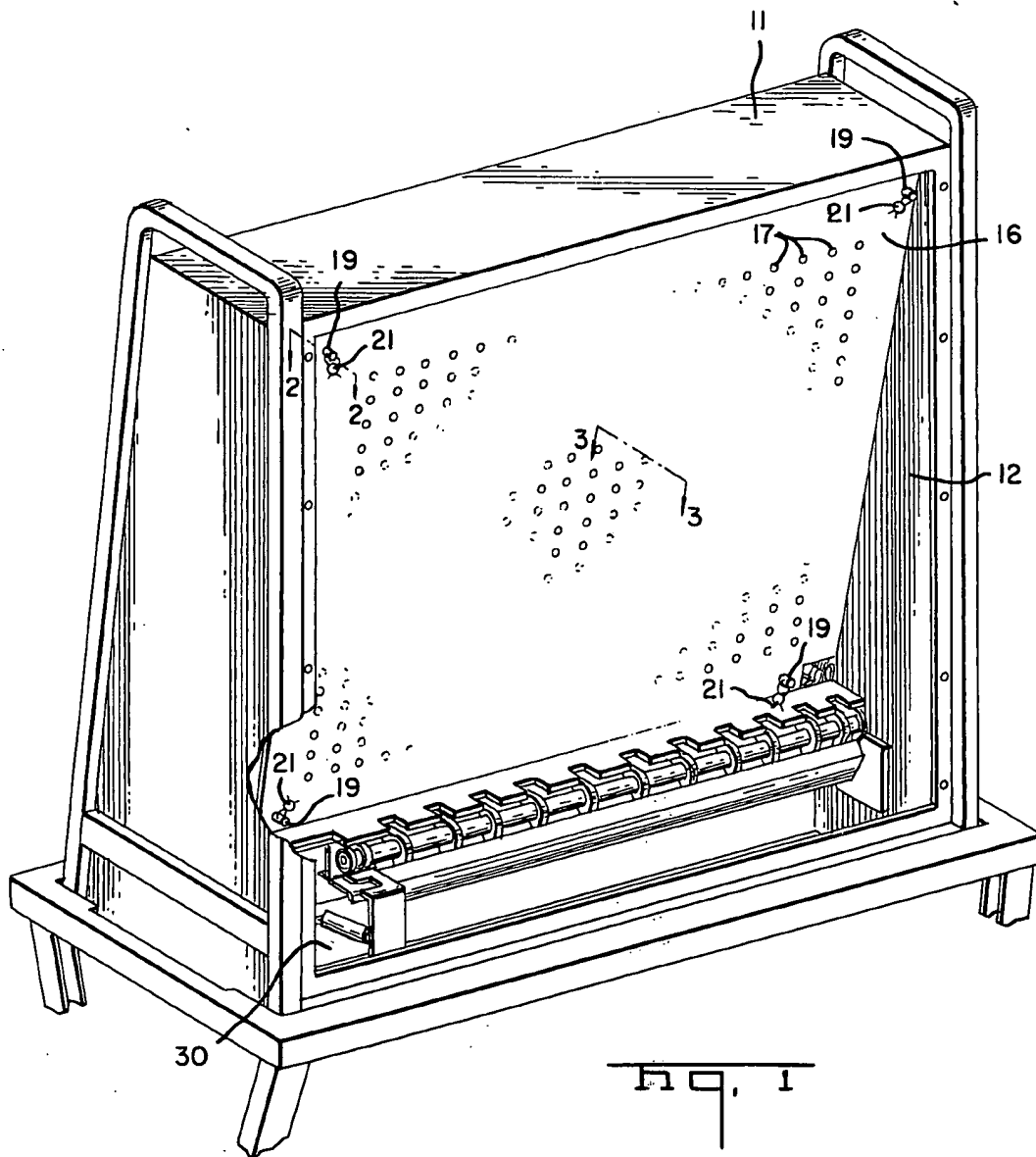
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Kurtz & Mackiewicz

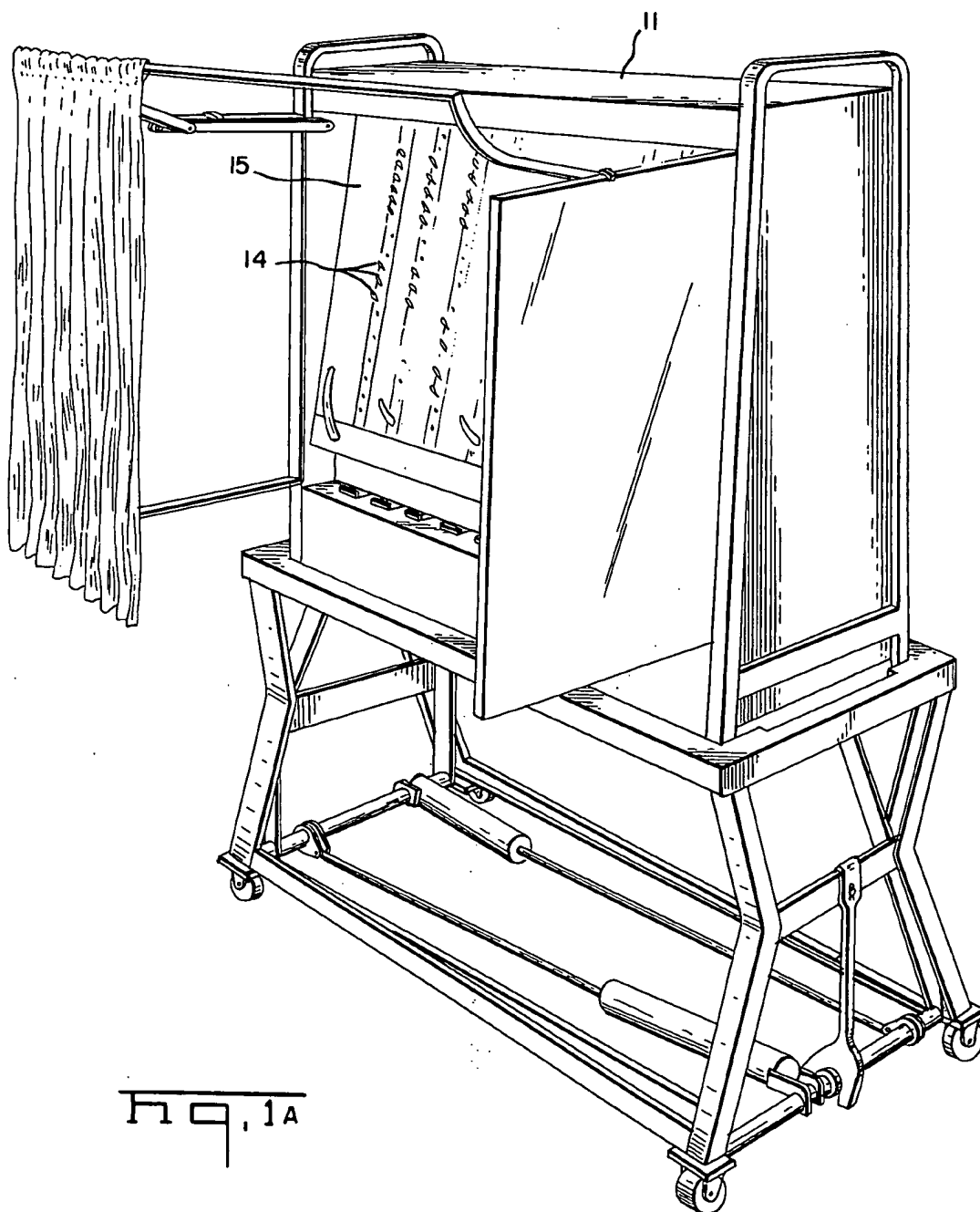
[57] **ABSTRACT**

A voting machine has a casing which encloses the vote counting mechanism and which has a rear open portion for access to the vote counting mechanism. A rear cover plate is secured in the rear open part of the casing. The rear cover plate is of sufficient size to close the rear portion of the casing to prevent access thereto. The rear cover bearing plate has a plurality of bearing holes one for each of a plurality of voting spindles. One end of each voting spindle is rotatably supported by the bearing plate. The bearing plate gives rigidity to the spindle so it cannot be forcibly flexed. Absent this support it would be possible to not accurately record a vote.

6 Claims, 4 Drawing Figures







Hq, 1A

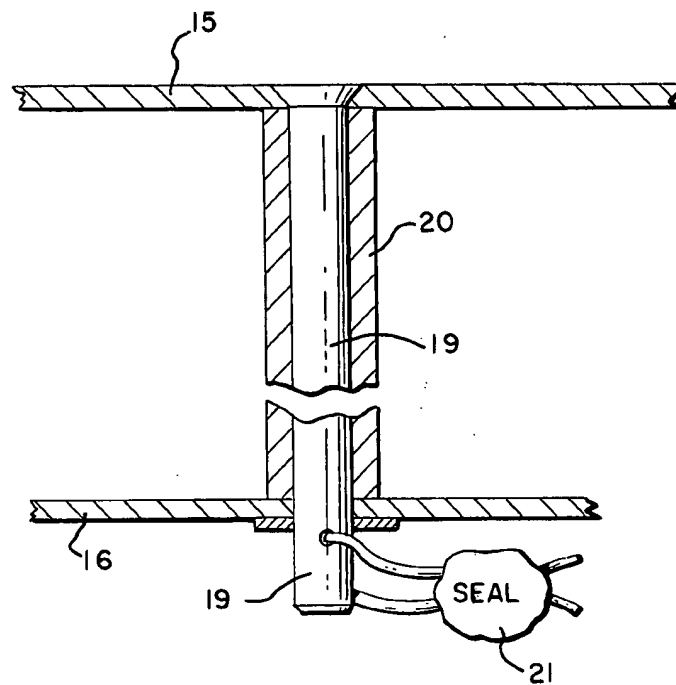
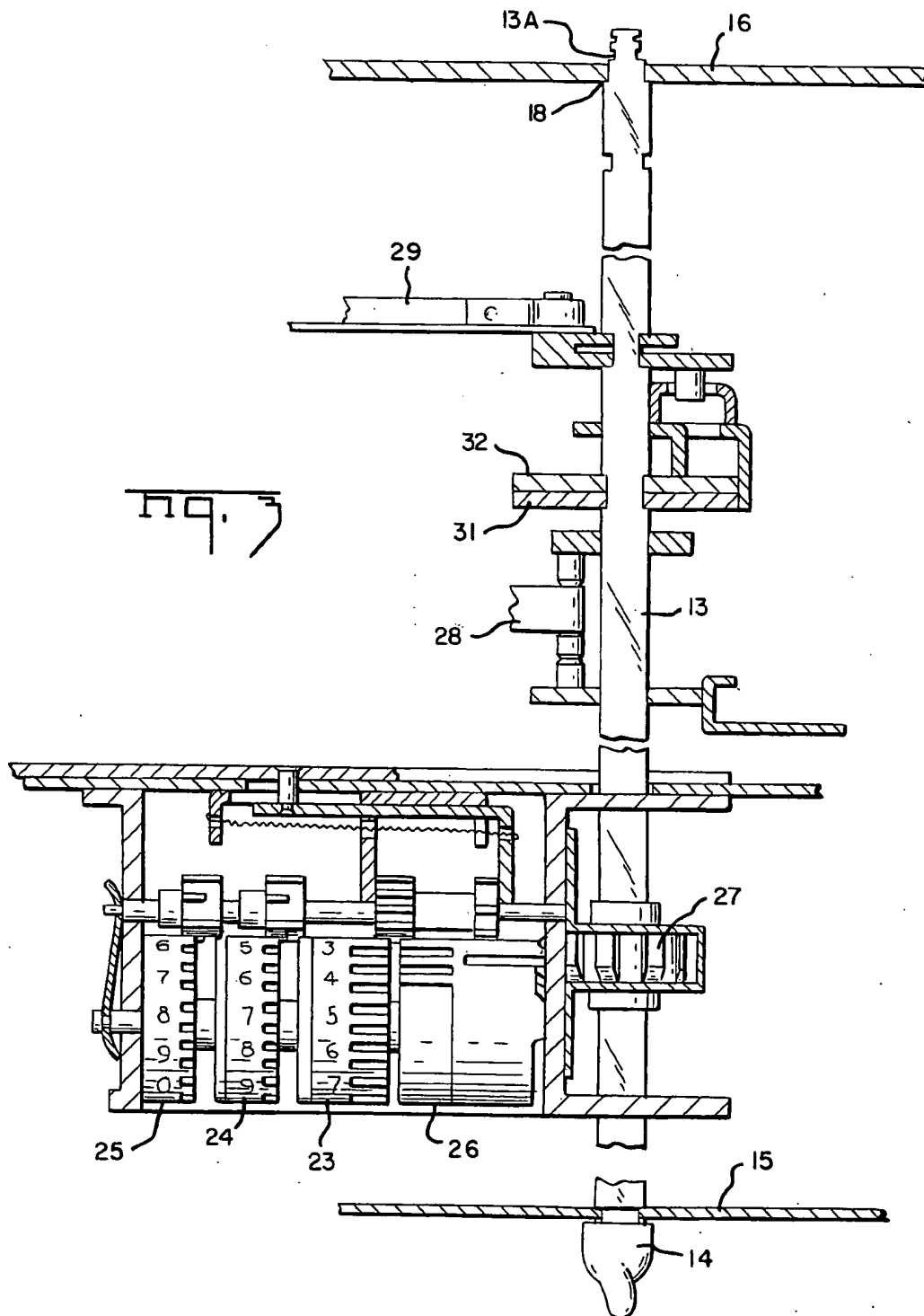


Fig. 2



PROTECTIVE PLATE FOR A VOTING MACHINE

BACKGROUND OF THE INVENTION

This invention relates to voting machines and more particularly to a voting machine having a rear cover plate which rotatably supports the voting spindles of the vote counting mechanism.

Mechanical voting machines include a plurality of voting spindles which are rotated by operating handles accessible to a voter. The voter moves the operating handle to a position to cast a vote for a candidate of his choice. The voting spindles actuate pinions in a mechanical counter. Upon leaving the voting machine, the voter operates a lever which registers the vote selections on the counters.

Maintaining the security of the counting mechanisms is a stringent requirement. If unauthorized personnel can gain access to the mechanisms they can tamper with the vote tally. On the other hand, access to the counting mechanisms must be provided for election officials to set up the mechanism for each election. That is, election officials must make sure that the names of the candidates are properly positioned, that the keys are all properly set and are all operative and that the vote recording counters are set at zero.

The usual provision of doors which can be locked and/or sealed to gain access to the voting mechanism is not entirely satisfactory. Hinged doors add undesirable weight and bulk to the machine. If possible, it is desirable to provide secure access to the machine without adding to its size and weight.

SUMMARY OF THE INVENTION

In accordance with this invention a rear cover plate for a voting machine provides a removable, but secure, access to the rear of the machine and also serves the function of rotatably supporting the voting spindles. In accordance with another aspect of the invention the voting machine casing has a well for the storage of election books and records which are accessible without removing the rear cover plate.

In one embodiment of the invention mounting pins are secured to the front panel of the machine. Stand-off elements on each of the pins bear against the front panel at one end. The rear cover is set in place against the other end of the stand-off elements. The pins protrude through the rear cover and a lock can be inserted in holes in the ends of the pins. The voting spindles protrude through bearing holes in the rear cover plate to rotatably mount them.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a three-dimensional view of the back side of a voting machine;

FIG. 1A is a three-dimensional view of the front of the voting machine;

FIG. 2 is taken along lines 2—2 of FIG. 1 showing the stand-off mounts; and

FIG. 3 is taken along lines 3—3 of FIG. 1 showing a voting machine spindle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A voting machine has a casing 11 which encloses the vote counting mechanism. The casing has a rear open portion 12 for access to the vote counting mechanism.

A plurality of vote counting spindles 13 (FIG. 3) each have an operating handle 14 (FIGS. 1A and 3) which is accessible to the voter at the front of the machine. The spindles 13 extend through the front panel 15 which separates the operating handles from the vote counting mechanism.

A rear cover plate bearing 16 is secured in the open rear portion 12 of the casing. The rear cover bearing plate 16 is of sufficient size to close the casing to prevent access to the vote counting mechanism. The rear cover bearing plate 16 has a plurality of bearing holes 17, one for each of the voting spindles 13. The ends of the voting spindles are rotatably disposed at 18 (FIG. 3) in the rear cover plate 16 when the rear cover plate 16 is in place. A clip is inserted in the slot 13A to secure cover 16 in place. Alternatively, a cotter pin in the end of spindle 13 can be used.

Four mounting pins 19 are secured to the front panel 15. The rear cover plate 16 is mounted on these pins. A stand-off element 20 is placed on each of the pins. Stand-off element 20 bears against the front panel 15 at one end thereof. The rear panel 16 bears against the other end of each stand-off element 20. One end of each of the pins 19 projects through the rear cover 16. Each pin has a hole in the end which projects through the rear cover. A lock 21 is inserted in the hole through each pin to prevent removal of the rear cover plate without removal of the locks. The locks are of a type frequently used in voting machines and which include a wire which is sealed at its ends after being put into place. The wire cannot be removed without breaking the seal.

Some of the details of the vote counting mechanism are shown in FIG. 3. Each counter unit includes unit, tens and hundreds counter wheels 23, 24 and 25 respectively. Adjoining wheel 23 is an X wheel 26 which has a large X which is rotated into view when the voter selects the candidate whose vote is being counted by this counter. The X wheel 26 has a gear segment on each end; one to cooperate with wheel 23 and the other to cooperate with drive gear 27 which is driven by the voting spindle 13. The vote counting mechanism also includes a pull strap 28 extending to a vertical interlock and a pull strap 29 extending to a general election interlock. (Both of straps 28 and 29 are not necessarily used in each election.) These interlocks limit the number of votes which can be cast for a particular office and they serve other functions which are more fully described in prior Shoup patents.

Rear bearing plates 31 and 32 provide a bearing surface for the spindle 13. Prior to this invention this was the rear bearing surface and the spindle between this surface and its rear extreme was free to flex. This flexing caused erroneous vote counting which is corrected by this invention.

The casing 11 also defines a well 30 which is separate from the enclosure of the vote counting mechanism. The well is sufficiently large to store election books and records. Access to the books and records is available without removing the rear cover plate 16.

While a particular embodiment of the invention has been shown and described, various modifications are within the true spirit and scope of the invention. The appended claims are intended to cover all such modifications.

What is claimed is:

1. A voting machine comprising:

a vote counting mechanism,
 a casing enclosing said vote counting mechanism and
 having an open rear portion for access to said vote
 counting mechanism,
 a plurality of voting spindles each having an operat-
 ing handle accessible to a voter at the front of said
 casing, and
 a rear cover bearing plate secured in the open rear
 portion of said casing, said rear cover bearing plate
 being of sufficient size to close the rear open por-
 tion of said casing to prevent access thereto, said
 rear cover bearing plate having a plurality of bear-
 ing holes, one for each of said voting spindles, the
 ends of said voting spindles being rotatably dis-
 posed in said holes when said cover is in place in
 said casing.

2. The voting machine recited in claim 1 wherein said
 casing defines a well separate from the enclosure of
 said vote counting mechanism, said well being of a size
 to store election books and records, access to said
 books and records being available without removing
 said rear cover plate.

3. The voting machine recited in claim 1 further com-
 prising:

a front panel, each of said voting spindles extending

through said front panel and having one of said op-
 erating handles at the end thereof outside of said
 front panel, and
 a plurality of mounting pins secured to said front
 panel, said rear cover bearing plate being mounted
 on said pins.

4. The voting machine recited in claim 3 further com-
 prising:

a stand-off element on each of said pins, each of said
 stand-off elements bearing against said front panel
 at one end thereof, said rear cover bearing against
 the other end of each stand-off element.

5. The voting machine recited in claim 4 wherein one
 end of each pin projects through said rear cover, each
 pin having a hole in the end which projects through said
 rear cover, and

a lock in the hole of at least one of said pins to pre-
 vent removal of said rear cover plate without re-
 moval of said lock.

6. The voting machine recited in claim 1 wherein said
 vote counting mechanism includes a counter for each
 of said voting spindles, said counter having counter
 wheels movable by said spindle when the voting lever
 on the end thereof is actuated.

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